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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,477	03/26/2004	Takashi Ikeda	70591-017	8333
7590 11/18/2005 McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096			EXAMINER SEVER, ANDREW T	
			ART UNIT 2851	PAPER NUMBER

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,477

Applicant(s)

IKEDA ET AL.

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 33 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 1, 3, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, and 43/(3, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41).

Continuation of Disposition of Claims: Claims objected to are 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, and 43/(4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42).

DETAILED ACTION

Election/Restrictions

1. Claims 1, 3, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43/(3, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41) are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8/18/2005.
2. Applicant's election with traverse of Species II (figure 4 claims 2, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, and 43/(4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42)) in the reply filed on 8/18/2005 is acknowledged. The traversal is on the ground(s) that the various species do not constitute a separate invention requiring separate consideration. This is not found persuasive because as applicant has clearly pointed out the species of figure 3 (species I) comprises of a single light source while the species of figure 4 (species II) requires three separate light sources; the prior art that would anticipate figure 3 would not necessarily anticipate figure 4. Applicant's argument with regard to generic claims is premature since any claims that might be considered generic are not allowable (specifically claim 2, as applicant has acknowledge that claim 4 is not generic and claim 2 is rejected below based on 35 U.S.C. §102(b)).

The requirement is still deemed proper and is therefore made FINAL.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Itoh (US 6,042,234.)

Itoh teaches in figure 1 a color separating and mixing element comprising, in its transparent cube (201), a first optical function surface (212) and a second optical function surface (211) which are unparallel to each other (see figure 2 which shows their disposition relative to each other), first and second faces of the cube being respectively taken as light incidence surfaces (sides facing light source L2 and L1 respectively), third, fourth and fifth faces of the cube being respectively taken as light incidence/output surfaces (sides facing mirrors 303, 301, and 302 respectively) and a sixth face of the cube being taken as a light output surface (side facing 401),

One light in the primary color which is predetermined polarized light incident on the first face of said cube passing through the first optical function surface and being emitted from the third face of the cube, said one light in the primary color returned after the direction of polarization thereof is rotated by 90 degrees being received in the third face of the cube, and the one light in the primary color being reflected by the first optical function surface and being emitted from said light output surface, (see the below descriptions which are with regards to the second face, which as shown in figure 3 meet applicant's claim limitations, the first face would behave in a similar fashion and meet applicant's claim language)

One (one of the lights from L1 as shown in figure 3), which is predetermined polarized light (S polarized light), of the two lights in the primary colors incident on the second face (221) of said cube passing through the second optical function surface (211) and being emitted from the fourth face of the cube (231), said one light in the primary color returned after the direction of polarization thereof is rotated by 90 degrees (1/4 wave plate (351) and mirror (301) work together to rotate the light by 90 degrees and reflect it back to fourth face of the cube) being received in the fourth face of the cube, the one light in the primary color being reflected by the second optical function surface (211) and being emitted from said light output surface (234), and

The other one (P polarized light shown in figure 3), which is predetermined polarized light, of the two lights in the primary colors incident on the second face of said cube (221) being reflected by the second optical function surface (211) and being emitted from the fifth face of the cube (232), said other one light in the primary color returned

after the direction of polarization thereof is rotated by 90 degrees (mirror 302 and ¼ wave plate (352) work together to rotate the light by 90 degrees and reflect it back to the fifth face of the cube) being received in the fifth face of the cube, and the other one light in the primary colors passing through the second optical function surface (211) and being emitted from said light output surface.

Allowable Subject Matter

6. Claims 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, and 43/(4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Claim 4 which is dependent on claim 2 claims a video light producing device which in addition to the limitations of rejected claim 2 claims three reflection type light modulators facing third through fifth faces of the cube of claim 2. As is clear Itoh does not teach modulators facing the cube at all, rather mirrors face third through fifth faces. Additionally it would not be obvious to modify Itoh as Itoh clearly discloses the modulators as part of a separate image kernel in figure 12, wherein the cube and light sources are only provided for providing polarized light to said kernel. Other prior art such as US 2003/0011752 to Ikeda et al. (which is prior art under 35

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U.S.C. § 102(b)) teaches in figure 1 a cube along with modulators (30), however Ikeda does not teach first and second light sources, rather Ikeda teaches only a first light source. It would not be obvious to modify Ikeda with Itoh since Itoh's light sources as a combined illumination unit would only serve to replace the first light source of Ikeda rather than providing a teaching of two light sources meeting the limitations of claim 4, and Itoh's cube would not function to replace Ikeda's. No other prior art was found which remedied the deficiencies in the Itoh and Ikeda references and accordingly claim 4 is indicated as being allowable if rewritten in independent form. Claims 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40 and 42 are dependent on claim 4 and would be allowable for the reasons that claim 4 is indicated as such. Claim 43 is multiply dependent on both claims dependent on claim 4 (including claim 4) and claims withdrawn, accordingly claim 43 is indicated as being allowable in only the form that is dependent on claims 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and 42.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 2003/0160859 to Roddy et al. teaches in figure 6 a projector utilizing a color-mixing cube 27 to mix colors from 4 light sources.

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US 5,903,388 to Sedlmayr teaches in figure 20c a projector utilizing mixing cubes to combine light from multiple light sources.

US 2004/0227899 to Kurosaka et al. has common inventors with the present application and in figure 1 teaches a cube, which is similar to the present color separating and mixing element.

Applicant should review Kurosaka prior to making any amendment to the present claims to avoid any potential double patenting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W B Perkey

AS

William Perkey
Primary Examiner